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DASSAULT AVIATION

Division FALCON

DIRECTION GÉNÉRALE TECHNIQUE

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SUBJECT : Comments on FAA NPRM Safety Standards for Flight Guidance Systems

Ref : Docket number FAA-2004-18775 - 7

Please find hereafter the Dassault Aviation comments about referenced NPRM.

1) Federal Register pages 50247 and 50250:

For the following reasons, Dassault disagrees that Autopilot override and subsequent disengagement should be considered a normal event. First, the AFM procedures require autopilot disconnection before the crew makes inputs to the flight controls. Second, pilots who operate Part 25 aircraft are professionals and certainly know that only one pilot (human or automatic) should operate the aircraft at the same time. They also know that manually overriding an autopilot is not an acceptable or "normal" operational technique. Third, pilots who operate Part 25 aircraft typically receive formal recurrent training that emphasizes adherence to published and accepted procedures. Further, training is designed to prepare pilots for unusual and even emergency situations and how to respond properly to those situations. To the extent the FAA is concerned that pilots of Part 25 aircraft are becoming deficient regarding operations with the autopilot engaged, this is a matter for training. However, under no circumstances should autopilot overrides be deemed "normal". In fact, given the millions and millions of flight hours of Part 25 aircraft and the very small number of reported override events, this event is simply not "normal".

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Dassault believes that Part 25 aircraft certified to the current standards have an excellent safety record. However, Dassault recognizes that Part 25 aircraft are becoming increasingly automated. Dassault further recognizes that recent technological improvements make it feasible to include a level of protection against override events, thus making future Part 25 aircraft and their flight guidance systems even safer. Consequently, Dassault supports reasonable and feasible steps to provide additional protection against autopilot overrides. Nevertheless, Dassault emphasizes that the primary responsibility for proper operation of flight guidance systems (or any other system) rests with the pilot in command and the only way for the pilot to fulfill that responsibility is adequate knowledge of aircraft systems and utilization of proper operational procedures, especially those that pertain to the flight guidance system.

2) Federal Register page 50254:

New paragraph 25.1329 (f) marking of functions and control directions.

This paragraph is redundant with the § 25.1329 (i) and worded more in term of design than regulation.

3) Federal Register page 50254:

New paragraph 25.1329 (h) : speed domain protection.

The sentence "... the flight guidance system must not provide guidance or control to an unsafe speed" is more restrictive than the NPRM discussion (page 50248) which states "However an implementation providing increased awareness of airspeed and/or alerts for immediate crew recognition and intervention of a potential airspeed excursion may also be an acceptable means of complying with this regulation". Designs that would comply with this second option would not be compliant with the formal regulation. Therefore DASSAULT AVIATION proposes to complement the last sentence from the new 25.1329 (h) as follows: "...the flight guidance system must not provide guidance or control to an unsafe speed *unless an implementation providing increased awareness of airspeed and/or alerts for immediate crew recognition is provided".*

Best Regards.

G. GARROUSTE

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